What is Claimed:

1. A heat exchange assembly adapted for use in a water tank, said heat exchange assembly comprising:

a tube having end portions and a coiled portion between said end portions; and

a fitting connected to at least one of said end portions of said tube, said fitting having an end configured to extend through an opening in the water tank and a surface positioned to limit the extension of said end through the opening in the water tank, and said fitting also having an opposite end defining a bore configured to receive one of said end portions of said tube and to limit the extension of said end portion of said tube into said opposite end of said fitting, wherein said bore extends axially beyond said surface.

2. The heat exchange assembly of claim 1, wherein said surface of said fitting is an exterior annular shoulder.

3. The heat exchange assembly of claim 2, wherein said fitting further comprises an outer surface tapered from said exterior annular shoulder toward said opposite end.

4. The heat exchange assembly of claim 1, wherein said bore of said fitting comprises a counterbore defining an interior annular shoulder.

5. The heat exchange assembly of claim 1, wherein said fitting is welded to said tube.

6. The heat exchange assembly of claim 1, wherein said end of said fitting defines female threads.

7. The heat exchange assembly of claim 1 comprising a fitting connected to each of said end portions of said tube, each said fitting having an end configured to extend through an opening in the water tank and a surface positioned to limit the extension of said end through the opening in the water tank, and each said fitting also having an opposite end defining a bore configured to receive one of said end portions of said tube and to limit the extension of said end portion of said tube into said opposite end of said fitting.

8. A coiled heat exchanger configured for use in a water heater, said coiled heat exchanger comprising:

a coiled tube for directing the flow of fluid through said heat exchanger, said coiled tube having a tube outer diameter and a coil inner radius;

wherein the ratio of said outer diameter of said tube to said coil inner radius is about 0.19:1 or greater.

9. The coiled heat exchanger of claim 8 wherein said outer diameter of said tube is about 1⅛ inches or greater.

10. The coiled heat exchanger of claim 8 wherein said outer diameter of said tube is about 1¼ inches or greater.

11. The coiled heat exchanger of claim 8 wherein said outer diameter of said tube is about 1½ inches or greater.

12. The coiled heat exchanger of claim 8 wherein said ratio of said outer diameter of said tube to said coil inner radius is about 0.25:1 or greater.

13. The coiled heat exchanger of claim 12 wherein said outer diameter of said tube is about 1⅛ inches or greater.

14. The coiled heat exchanger of claim 12 wherein said outer diameter of said tube is about 1¼ inches or greater.

15. The coiled heat exchanger of claim 12 wherein said outer diameter of said tube is about 1½ inches or greater.

16. The coiled heat exchanger of claim 8 wherein said ratio of said outer diameter of said tube to said coil inner radius is about 0.3:1 or greater.

17. The coiled heat exchanger of claim 16 wherein said outer diameter of said tube is about 1⅛ inches or greater.

18. The coiled heat exchanger of claim 16 wherein said outer diameter of said tube is about 1¼ inches or greater.

19. The coiled heat exchanger of claim 16 wherein said outer diameter of said tube is about 1½ inches or greater.

20. The coiled heat exchanger of claim 8 further comprising a support member contacting coils of said coiled tube.

21. The coiled heat exchanger of claim 20, wherein said coils are spaced apart.

22. The coiled heat exchanger of claim 21, wherein said coils are spaced evenly apart.

23. The coiled heat exchanger of claim 20, wherein said support member is connected to each of said coils of said coiled tube.

24. The coiled heat exchanger of claim 20, wherein said support member is welded to coils of said coiled tube.

25. The coiled heat exchanger of claim 24, wherein said support member is welded to coils of said coiled tube on alternating sides of said support member.

26. A system for heating water, said water heating system comprising:

a water storage tank adapted to contain a water supply;

at least one tube connected to contain a recirculating water supply, said tube being mounted within said water storage tank, said tube having at least one end portion fixed with respect to said water storage tank and a coiled portion extending from said end portion;

a fitting connected to said end portion of said tube and to said water storage tank, said fitting being oriented along a first direction and configured to reduce movement of said end portion of said tube with respect to said water storage tank along said first direction; and

a reinforcement member coupled to said coiled portion of said tube and to said water storage tank, said reinforcement member being oriented along a second direction substantially perpendicular to said first direction and configured to reduce movement of said coiled portion of said tube with respect to said water storage tank along said second direction.

27. The water heating system of claim 26, wherein said fitting comprises an exterior annular shoulder positioned to orient said fitting with respect to said water tank along said first direction.

28. The water heating system of claim 27, wherein said fitting further comprises an opposite end defining a bore configured to receive an end portion of said tube and to limit the extension of said end portion of said tube into said opposite end of said fitting, wherein said bore extends axially beyond said exterior annular shoulder.

29. The water heating system of claim 28, wherein said bore of said fitting defines an interior annular shoulder.

30. The water heating system of claim 28, wherein said fitting further comprises an outer surface tapered from said exterior annular shoulder to said opposite end.

31. The water heating system of claim 26, wherein said fitting is welded to said tube.

32. The water heating system of claim 26, wherein said tube is coiled.

33. The water heating system of claim 32, said coiled tube having a tube outer diameter and a coil inner radius, wherein the ratio of said outer diameter of said coiled tube to said coil inner radius is about 0.19:1 or greater.

34. The water heating system of claim 32 further comprising a support member contacting coils of said tube.

35. The water heating system of claim 26, wherein said reinforcement member is welded to a surface of said tube.

36. The water heating system of claim 26, wherein said reinforcement member is welded to a surface of said water storage tank.

37. In a system for heating water having a water storage tank adapted to contain a water supply and a tube assembly connected to contain a

recirculating water supply, a method for mounting the tube assembly within the water storage tank comprising the steps of:

coupling a fitting of the tube assembly to the water storage tank along a first direction, thereby reducing movement of the tube assembly with respect to the water storage tank along the first direction; and

attaching a reinforcement member of the tube assembly to the water storage tank along a second direction substantially perpendicular to the first direction, thereby reducing movement of the tube assembly with respect to the water storage tank along the second direction.

38. The method of claim 37, further comprising the step of coupling a fitting to a tube.

39. The method of claim 37, further comprising the step of attaching a reinforcement member to a tube.

40. The method of claim 37, further comprising the steps of:

extending an end of the reinforcement member through an orifice in the water storage tank along the first direction; and

advancing an end of the fitting through an orifice in the water storage tank along the second direction.

41. The method of claim 37, said coupling step comprising welding the fitting to a surface of the water storage tank.

42. The method of claim 37, said attaching step comprising welding the reinforcement member to a surface of the water storage tank.